

COLLOIDAL SILVER

The Universal Germicide

*Through the ages,
silver has been
used to fight
disease-causing
organisms.*

*Some think it has
a bright future for
treating a
multitude of
medical
conditions
including AIDS
and cancer.*

Compiled from a selection of articles
downloaded from the Internet, including:
"Colloidal Silver: The Amazing
Alternative to Antibiotics"
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Research
and "Colloidal Silver: The Natural
Antibiotic Alternative"
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HISTORICAL BACKGROUND AND RESEARCH

Silver has long been known for its special properties. The people of ancient Greece and Rome used silver containers for keeping liquids fresh. Through the centuries, royal households carried on this practice by storing their provisions in silver containers. Privileged family members used silver eating utensils; they had their meals served on silver plates and their drinks served in silver cups. Indeed, the skin of 'blue bloods' reportedly had a bluish tinge due to the minute traces of pure metallic silver they regularly consumed. In American pioneering days, new settlers travelling to the West would put silver dollars in their milk to delay spoiling.

By the turn of the 20th century, silver was regarded as a proven germ-fighter. In medicine, a solution known as Colloidal Silver was commonly used as a mainstay of antibacterial treatment. Although considered to be 'high tech' at that time, the type of solution was technically inferior compared to today's colloidal silver solutions. One of the drawbacks was that the particle size of the silver never reached its optimum ultramicroscopic size and thus its highest level of efficacy.

Back then, highly effective colloidal silver was very expensive to produce. The pharmaceutical industry wanted faster-working drugs that were cheaper and patentable. In addition, when manufactured improperly, or taken at hundreds of times the proper dosage with extraneous silver compounds included, a permanent skin discolouration, called argyria, could result. For these reasons, colloidal silver fell out of favour. Even so, such prestigious journals as the *New England Journal of Medicine* and the *Lancet* (1914) published the results of scientific studies and examined the many successful uses of colloidal silver.

In 1910, Dr Henry Crooks, a pioneer in colloidal chemistry, wrote that:

"...certain metals, when in a colloidal state, have a highly germicidal action but are quite harmless to human beings...it may be applied in a much more concentrated form and with better results... Bronchial tuberculosis...*Staphylococcus pyogenes*, various *Streptococci* and other pathogenic organisms are all killed in three to four minutes; in fact, no microbe is known that is not killed by this colloid in laboratory experiments in six minutes, [and] the concentration of the [silver] does not exceed twenty-five parts per million..."

In 1919, Alfred Searle, founder of the pharmaceutical conglomerate of the same name, wrote in his book, *The Use of Colloids in Health and Disease*, that:

"...applying colloidal silver to human subjects has been done in a large number of cases with astonishingly successful results. For internal administration, orally or hypodermically it has the advantage of being rapidly fatal to parasites without toxic action on its host. It is quite stable."

COLLOIDAL SILVER REAPPRAISED

Much later, in the 1970s, colloidal silver once again became a valued substance. Doctors at Washington University in St Louis, Missouri, stumbled upon it while searching for effective treatments for burns victims, having tried many other medicines.

Biomedical research has shown that no known disease-causing organism—bacteria, virus or fungus—can live for more than a few minutes in the presence of even minute traces of metallic silver.

Jim Powell reported in an article, "Our Mightiest Germ Fighter", published in *Science Digest* (March 1978, pp. 59-60):

"Thanks to eye-opening research, silver is emerging as a wonder of modern medicine.

An antibiotic kills perhaps a half-dozen different disease organisms, but silver kills some 650. What's more, resistant strains fail to develop when using silver. Moreover, silver is virtually non-toxic."

Larry C. Ford, M.D., of the Department of Obstetrics and Gynecology at the UCLA School of Medicine's Center for the Health Sciences, reported in a November 1988 letter:

"I tested them [the silver solutions] using standard antimicrobial tests for disinfectants. The silver solutions were anti-bacterial for concentrations of 10 organisms per ml of *Streptococcus pyogenes*, *Staphylococcus aureus*, *Neisseria genorrhoeae*, *Gardnerella*, *Vaginalis*, *Salmonella typhi*, and other enteric pathogens, and fungicidal for *Candida albicans*, *Candida globata*, and *M. furfur*."

Biomedical researcher Robert O. Becker, M.D., from Syracuse University, has reported that "Silver stimulates bone-forming cells into growing new bone where it had not healed for long periods of time." Dr Becker is the author of *The Body Electric* and *Cross Currents*, and is also known for his work in regenerating the amputated limbs of bull-frogs.

According to Dr Becker, "Silver did more than kill disease-causing organisms. It promoted major growth of bone and accelerated the healing of injured tissues by over 50 per cent." In his research he discovered cell types that looked just like the active bone marrow of children. "These cells grew fast," he wrote, "producing a diverse and surprising assortment of primitive cell forms able to multiply at a great rate, then differentiate into the specific cells of an organ or tissue that had been injured, even in patients over fifty years old. This ability overcomes the main problem of mammalian regeneration."

Dr Becker also discovered that silver "profoundly stimulates healing in skin and other soft tissues in a way unlike any known natural process...and kills the most stubborn infections of all kinds, including surrounding bacteria and fungus." He concluded that, "What we have actually done was rediscover the fact that silver killed bacteria, which had been known for centuries...; when antibiotics were discovered, clinical uses for silver as an antibiotic were discarded."

COLLOIDAL CHEMISTRY

The term "colloid" refers to a substance that consists of ultra-fine particles that do not dissolve but remain in suspension dispersed in a continuous medium. These ultra-fine particles consist of many atoms or molecules of the original material, but so small they cannot be seen by the naked eye.

Not all types of colloidal silver are 'true' colloids. Properly manufactured colloidal silver is a liquid solution consisting of a minuscule number (3 to 5 parts per million) of sub-microscopic particles of silver, held in suspension in pure water by a tiny electrical charge placed on each particle.

In a 'true' colloid of silver, the ideal size of the silver particles falls within the range of 0.005 to 0.015 microns in diameter. The particles are animated by what is known as Brownian movement, which keeps them in suspension almost indefinitely. You could fit 1,000,000,000 of these submicroscopic particles into a cube that measures four one-hundredths of an inch or 250 thousandths to 25 millionths of an inch.

PRODUCTION METHODS

Many methods were used to produce colloids in the early 1900s—most commonly, the grind process and the electrocolloidal process.

The main drawback to the grind method is that the silver particles are so large that they settle towards the bottom of the solution and much of the colloid's value is lost. To offset this problem, some manufacturers add a stabiliser. By so doing, the silver particles tend to settle to the bottom much more slowly. Typically, the stabiliser used is a protein. The use of a stabiliser tends to disturb the charge on the silver particles, thereby blocking their action and reducing their effectiveness. A 'true' colloid does not require an artificial stabiliser or additive of any kind.

In recent years, the chemical process has been widely employed to replace the grind method. The chemical method provides a convenient shortcut, but it, too, falls short of the superior quality of 'true' colloidal silver. The reaction used is the reduction of a solution of a silver salt. The problem with using chemicals to produce colloids is the difficulty in getting them back out of the solution. These are powerful acid solutions which can cause negative side-effects in the consumer. Also, the use of chemicals has been shown to affect the overall pH of the solution. Typically, a chemical-produced colloid of silver is quite acidic, having a pH of 4.5 to 5.5, while a 'true' colloid of silver has a pH in the range of 6.5.

The electrocolloidal process allows extremely fine silver particles to be suspended in solution by the tiny charge placed on the particles. It is done by striking an electric arc between poles made of the metal, under water. If done properly, this method replaces the need for any chemicals, stabilisers or proteins, so the product can be called a 'true' colloid of silver. However, much of the efficacy of the colloidal solution depends on the actual size and uniformity of silver particles. Particles that are too large may cause harm by lodging in the fine lining of the digestive tract and causing scar tissue to form.

COLOUR

A critical indicator of the quality of colloidal silver is colour. As the size of each silver particle gets larger, the colour of the solution ranges from yellow to brown to red to grey to black.

Colloids of silver that are produced using the proper electrocolloidal method are a different colour than the grind- or chemically-produced colloids, except in the case of some products that contain artificial food colouring to get the right colour. The ideal form of colloidal silver is a golden yellow colour.

BIOCHEMISTRY

Medical researcher Dr Gary Smith suggests that silver may be linked to the proper functioning of the body's natural defence system and that people with an inadequate intake may be more prone to illness.

Medical tests indicate no known adverse effects from the use of properly prepared colloidal silver. Indeed, there has never been a recorded case of adverse interaction with any other medication.

Some lab tests have shown that 'true' colloidal silver in the range of 3 to 5 ppm (parts per million) has little effect on 'friendly' bacteria, while being highly useful against infections and in eliminating various microbes, viruses and fungi. Colloidal silver that is too concentrated (above 5 ppm) may upset the delicate balance of the digestive tract by destroying significant amounts of friendly bacteria.

With a 98 per cent uptake rate, colloidal minerals are much more easily assimilated compared to mineral supplements derived from crushed and processed clay, rocks and soil. And unlike many vitamin and mineral supplements where a higher concentration is sometimes more beneficial, with colloidal silver an excess in quantity does not mean more quality. In fact, the opposite is true.

FDA EVALUATION

A number of forms of colloidal silver have been officially recognised as pre-1938 drugs by the US Food & Drug Administration (FDA). However, not all forms listed were true colloids of silver because the size of the particles and the effectiveness varied markedly.

The FDA's Center for Drug Evaluation and Research has stated:

"Colloidal silver is considered to be a pre-1938 drug. These products may continue to be marketed without submitted evidence of safety and effectiveness [required of all drugs marketed after 1938] as long as they are advertised and labeled for the same use as in 1938 and as long as they are manufactured in the original manner."

COLLOIDAL SILVER TREATMENT

Colloidal silver is tasteless, odourless and non-stinging to sensitive tissues. It may be taken orally, as well as put on a Band-Aid and applied directly to cuts, scrapes, open sores and warts.

It may also be used as a rinse for acne, eczema and other skin irritations. It can be gargled, dropped into eyes and ears, used vaginally and anally, as well as atomised and inhaled into the nose or lungs.

The following is a partial list of the more than 650 diseases that have been successfully treated with colloidal silver:

- Acne • Anthrax • Appendicitis • Arthritis • Athlete's Foot
- Bacterial infections • Bladder infections • Blood poisoning
- Boils • Burns
- Cancer • *Candida albicans* • Catarrh • Chronic Fatigue Syndrome • Colitis
- Conjunctivitis • *Cryptosporidium* infection • Cystitis
- Dermatitis • Diabetes • Diarrhoea • Diphtheria • Dysentery
- Ear infection • Eczema • Epstein Barr virus • Eustachian tube infection

- Fibrositis
- Gastritis • Gonorrhoea
- Haemorrhoids • Herpes virus
- Impetigo • Influenza • Intestinal disorders
- Keratitis
- Legionnaire's disease • Leprosy
- Lesions • Lupus
- Malaria • Ménière's disease • Meningitis
- Neurasthenia
- Ophthalmia
- Paratyphoid fever • Pleurisy • Pneumonia • Polio virus
- Prostate disorders • Pruritis ani • Psoriasis • Pyorrhoea
- Rheumatism • Rhinitis • Ringworm • Rosacea
- *Salmonella* infection • Scarlet fever • Seborrhoea
- Septicaemia • Septic ulcers • Shingles
- Skin cancer • Sores • *Staphylococcus* infection
- *Streptococcus* infection • Sunburn • Syphilis
- Tetanus • Tonsillitis • Trenchfoot • Tuberculosis • Typhoid
- Ulcers
- Warts • Whooping cough
- Yeast infections

MORE CLINICAL EVIDENCE

"A 65-year-old diabetic cut himself on the leg. He washed and bandaged it but, as often happens with diabetes, the pain persisted, and the cut grew into a sore. Soon it became bigger than the bandage, and he had to apply a dressing. Still it grew bigger and ugly. In desperation he went to a clinic. His sore was diagnosed as a 'stasis ulcer'. For a year, one treatment after another was tried. Nothing, including penicillin and sulfonamide, could heal the ulcer. If his condition had continued unchecked, his leg probably would have been amputated. But finally he was referred to a clinic that treated skin ulcers with a silver compound. This promptly stopped the growth of all bacteria. In less than two months, the ulcer was completely healed."

(*Science Digest*, March 1978)

"We have had instant success with colloidal silver and immune-compromised patients. A few examples are: pink-eye totally resolved in less than six hours (topical); recurrent sinus infections resolved in eight days (oral ingestion); acute cuticle infections, twenty-four hours (topical). Another major area in which we have improved our clinical results is in the area of bowel detoxification and dysbiosis. The colloidal silver has provided excellent removal of abnormal intestinal bacteria; also it has proved to be a great adjunct to our *Candida albicans*, Epstein Barr virus and Chronic Fatigue Syndrome protocols." (Dr Evan M., Kansas)

"Success depends on the amount of silver in the person's body, and problems result from the lack of silver in the body. When silver is present, the cancer cells stop their development and the body is basically restored. When silver levels are low or non-existent, the cancer growth rate slows or continues to grow because the cells cannot reverse themselves."

"One might ask, how do we get silver in our body in the first place? We get silver and all minerals in the body through the food we eat. How does silver get in the food? It gets in the food through living soil...where living organisms in humus soil (there are billions in a handful of dirt) break down the soil so plants are provided minerals in a form assimilable to the plant.

"By assimilating the plant nutrients, the minerals are transferred in our digestive tract where our bodies utilise the captured organic (chelated) minerals through the bloodstream to the various organs of our body. Hence, we get silver from plants.

"If we cannot assimilate silver for some reason or as the tissues age, we develop a silver deficiency and an impaired immune system, leading to cancer in most cases. I suspect a silver deficiency is possibly one of the main reasons cancer exists and is increasing at such a rapid rate."

(Cancer researcher Dr Gary Smith, writing in an unpublished article)

WHO'S USING COLLOIDAL SILVER?

- In Canada, Switzerland and the US, physicians use various forms of silver to treat a multitude of infections.

- In the US, silver is used in bone surgery and in 70 per cent of US burns centres.

- Naturopaths and chiropractors use colloidal silver to treat the effects of *Cryptosporidium*. Ayurvedic, Chinese and homoeopathic practitioners also regularly use silver in their treatments.

- Swiss biochemists are studying silver's ability to interrupt the cellular replication of HIV at various stages.

- Colloidal silver water-filters are approved by the US Environmental Protection Agency and also by the Swiss government for use in homes and offices.

- The American space agency NASA uses a silver water-purification system for its space shuttles; so do the Russians.

- The airline companies Air France, Alitalia, British Airways, Canadian Pacific, Japan Air Lines, KLM, Lufthansa, Olympic, Pan Am, SAS and Swissair use silver water-filters to curtail waterborne diseases.

- Silver is often used in place of chlorine in swimming pools because it doesn't sting the eyes.

- Japanese companies are using silver to remove cyanide and nitric oxide from the air.